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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,424	05/24/2001	Jason Peter Andrew Charlesworth	1263.1605	9407

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EXAMINER

LE, UYEN T

ART UNIT	PAPER NUMBER
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2171

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DATE MAILED: 08/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/863,424

Applicant(s)

CHARLESWORTH ET AL.

Examiner

Uyen T Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15 and 17-30 is/are allowed.
- 6) ☒ Claim(s) 16 and 31-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Inventorship*

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 16, 32, 33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 16 merely recites pure descriptive material not tangibly embodied in any computer readable medium. Therefore, the claimed subject matter is non-statutory.

Claim 32 merely recites a computer program per se. Therefore, the claimed subject matter is non statutory.

Claim 33 is directed to non-statutory subject matter because although the preamble recites an apparatus, the body of the claim does not support the apparatus of the preamble. Therefore, claim 33 is non statutory because the claimed subject matter

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cannot be categorized as a machine, manufacture, or composition of matter. Claim 33 merely describes an index without any practical application.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not provide enough support to enable a person skilled in the art to make and use a storage medium for "storing processor implementable instructions for controlling a processor to implement the method of claim 17 or storing the data of claim 16".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 16, 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because:

- At claim 16, the claimed "for use in searching" merely recites an intended use of the data and merely appears in the preamble of the claim. The body of claim 16 does not seem to support the preamble;

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- At claim 33, the body of claim 33 does not seem to support the preamble. The comparison of database and query input merely appears in the preamble of the claim and does not seem to play any role in the context of the claim.

5. The art rejection of claims 16, 31, 33 is applied as best understood in light of the rejection under 35 U.S.C. 112, first and second paragraphs discussed above.

### ***Claim Objections***

6. Claims 2, 18 are objected to because of the following informalities: "phoneme-like units" should be -- word lattice--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 16, 31, 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al (US 5,675,706).

Claim 16 merely describes keys related to identifiers of entries in an index. Lee discloses such keys when Lee shows the sub-word-based recognizer (see the abstract, column 3, line 11- column 4, line 16). Note the sub-word classes defined in advance and comprising sub-word units confusable with other sub-word units in the same class (see column 12, lines 11-67). The claimed data defining the identifiers, the keys and the pointers are inherently present for indexing data in Lee.

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Claim 31 corresponds to a computer storage medium for claim 16, thus is rejected for the same reasons stated in claim 16 above.

Claim 33 corresponds to an apparatus for claim 16, thus is rejected for the same reasons stated in claim 16 above.

***Allowable Subject Matter***

8. Claims 1-15, 17-30 are allowed. The following is a statement of reasons for allowance: the prior art of record does not disclose or make obvious a method and an apparatus for identification of data in a database for comparison with a query input including storing data defining sub-word unit classes of confusable sub-word units, storing an index of entries, each entry comprising an identifier, a key, a number of pointers, wherein the key is compared with the input query sub-word unit classification for retrieving pointers from the index, the pointer identifying one or more portions of the database for comparison with the input query, in combination with all the limitations recited in claim 1.

Claim 15 differs from claim 1 by replacing "sub-word unit classes" by "feature classes", thus is allowable for the same reasons stated in claim 1 above.

Claim 17 corresponds to a method for claim 1, thus is allowable for the same reasons stated in claim 1 above.

Claims 2-14, 18-30 being further limiting and definite are also allowable.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Rigazio et al (US 6,182,039) teach a method and apparatus using probabilistic language model based on confusable sets for speech recognition.

Gillick et al (US 5,202,952) teach a large vocabulary continuous speech prefiltering and processing system.

Schoofs et al (US 6,487,532) teach an apparatus and method for distinguishing similar-sounding utterances speech recognition.

Torres (US 5,680,605) teaches a method and apparatus for searching a large volume of data with a pointer-based device in a data processing system.

Desai et al (US 6,567,816) teach extracting data from database records using dynamic code.

Srinivasan et al (US 5,852,822) teach index-only tables with nested group keys.

Srinivasan et al "Phonetic confusion matrix based spoken document retrieval", ACM 2000, pages 81-87.

Okawa et al "Automatic training of phoneme dictionary based on mutual information criterion", IEEE 1994, pages 214-244.

Rahim "A neural tree network for phoneme classification with experiments on the TIMIT database", IEEE 1992, pages 345-348.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uyen T Le whose telephone number is 703-305-4134. The examiner can normally be reached on M-F 7:00-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Uyen Le  
July 27, 2003